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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,137	02/16/2005	Dirk Herbert Johan Teeuw	NL 020765	1790

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EXAMINER	
DEFRANK, JOSEPH S	

ART UNIT	PAPER NUMBER
3724	

MAIL DATE	DELIVERY MODE
07/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,137	TEEUW ET AL.	
	Examiner	Art Unit	
	JOSEPH DEFRANK	3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to communication received on 3-20-08. Claims 1-8 are pending.

2. Examiner acknowledges the replacement abstract. This abstract is acceptable.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sastri (US Patent 3,835,537 as previously cited) in view of Wong et al. (US Patent 5,776,615 as cited in IDS).

6. With respect to claims 1 and 2, Sastri discloses a cutting member (razor blade 20) having a metal substrate which is provided with a cutting edge (tapered portion shown in figure 2), at least a portion of the substrate including the cutting edge being provided with a coating (outer chromium coating 36, see column 5 lines 46-49), the

coating is layered on the substrate in multiple coats as shown in figure 4. Sastri does not disclose the coating comprising carbon, characterized in that the coating comprises a plurality of stacked pairs of layers, each pair comprising a first layer mainly comprising carbon and a second layer mainly comprising a metal, and each pair having a thickness between 1 and 10 nm.

Wong et al. discloses a process for making superhard composite materials out of carbon and metal alternating layers for use in cutting devices. "The composite material may comprise a plurality of alternating layers comprising the carbon nitrogen compound each deposited on a respective layer of metal or metal compound to form a multi-layered, superlattice coating wherein each layer is ion bombardment densified during deposition and each layer has a thickness in the range of about 0.5 nm to about 100 nm (nanometer). Such a coating exhibits a hardness substantially exceeding (e.g. 2 times) the hardness of each individual layer in homogenous form" (column 4 lines 4-12). Wont et al. also discloses that chromium is an acceptable metal to use as it falls within group VI of the periodic table of elements (see column 3 line 60). In the setup disclosed by Wong et al, the metal/carbon pair of a layer has a thickness from 1-200nm, which overlaps sufficiently with the range 1-10nm. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to replace the solely chromium layers of Sastri with an alternating carbon nitrogen and chromium layered pair setup in view of the teachings of Wong et al. in order to create a harder cutting surface.

7. With respect to claim 3, Wong et al. discloses using the metal layer having a thickness ranging from 0.5 to 100 nm. 1.6 to 2.0 nm is fully encompassed by this range.

8. With respect to claims 6 and 7, Sastri in view of Wong et al. discloses that the total thickness of material added to the substrate by layering has a thickness of at least 400 Angstroms (40 nm; abstract of Sastri). No specific size of the total layer is given. However, It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide enough layered pairs so that the thickness of the coating was in the range of 80 - 120 nm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

9. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sastri (US Patent 3,835,537 as previously cited) in view of Wong et al. (US Patent 5,776,615 as cited in IDS) as applied to claim 1 above, and further in view of Sanderson (US Patent 3,838,512 as previously cited).

Sastri in view of Wong et al. does not disclose a layer of Cr and a layer of CrN between the substrate and the layered pairs. Sanderson discloses a razor blade having a first layer of chromium to provided added strength and a second layer of a chromium based nitride which acts as better substrate for adhesion to following layers (column 7 lines 13-24). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a layer of chromium followed by a layer of chromium nitride before the stacked pairs of Sastri in view of Wong et al. based on the

teachings of Sanderson in order to provide a stronger razor that is a better substrate for adhesion of a following layer.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sastri (US Patent 3,835,537 as previously cited) in view of Wong et al. (US Patent 5,776,615 as cited in IDS) as applied to claim 1 above, and further in view of Grewal et al. (US Patent 5,142,785 as previously cited).

Sastri in view of Wong et al. does not disclose the blade of claim 1 being mounted in any sort of tool for shaving hair. Examiner notes that hand held razors are very common and well known in the art. The use of coated blades in the heads of these razors is also very well known in the art. Grewal et al. discloses mounting a coated razor blade in a shaver head (as shown in figure 1). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to mount the blade of Sastri in view of Wong et al. in a shaving apparatus in order to cut hair.

Response to Arguments

11. Applicant's arguments filed with respect to claims 1-8 have been fully considered but they are not persuasive.

12. Applicant argues that the “reliance on Wong is misplaced” because Wong discloses the disclosed composite material “has a hardness that approaches the hardness of diamond thin films” unlike the applicant’s disclosed composite materials which “are able to achieve a hardness which is superior to that provided by a diamond film.” Applicant contests that this is an unexpected result, and thus the combination of Sastri in view of Wong does not disclose the limitations of claim 1. Examiner notes the

argument, but is not persuaded by it as there is no mention of achieved hardness in the language of claim 1. This limitation is not found in the claim language.

13. With respect to claim 3, Applicant further argues that argues that Sastri in view of Wong does not disclose or suggest “the second layer [mainly] comprises Cr”. Examiner notes that in the modified apparatus of Sastri (Sastri in view of Wong), the solely chromium layer of Sastri is modified to be "an alternating carbon nitrogen and chromium layered pair setup in view of the teachings of Wong et al. in order to create a harder cutting surface” (per the rejection above). In this setup, the second layer is metal (Cr) and the first layer is a carbon compound. See above rejection.

14. With respect to claims 4 and 5, Applicant argues that "Sanderson does not show an implanted Cr layer nor does Sanderson show that the disclosed layer is positioned other than as an outer layer". Examiner notes that the word “implanted” just means something that is "set firmly" or “embedded” (see www.dictionary.com). In view of this definition, any internal layer of chromium is viewed as being "implanted." In this case, since the modified blade of Sastri (Sastri in view of Wong and further in view of Sanderson) discloses at least one layer of chromium not on the outer surface of the blade, that at least one layer is considered to be implanted.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH DEFRANK whose telephone number is (571)270-3512. The examiner can normally be reached on Monday - Thursday; 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Prone/
Primary Examiner, Art Unit 3724

Joseph De Frank
Examiner
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JD
6-28-08
/J. D./
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